



PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q60969

Hideo WATANABE, et al.

Appln. No.: 09/667,301

Group Art Unit: 3711

Confirmation No.: 1597

Examiner: Alvin A. HUNTER

Filed: September 25, 2000

For: SOLID MULTI-PIECE GOLF BALL

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of \$340.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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Date: December 6, 2004

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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P.O. Box 1450

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Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellants submit the following:

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I. REAL PARTY IN INTEREST

The real party in interest is Bridgestone Sports Co., Ltd., the owner by assignment of the all rights and interest in the present application. The assignment was filed on September 25, 2000, and recorded at Reel 011110, Frame 0319.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representatives, and the assignee in this application are not aware of any other appeals or interferences which directly affect, can be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1, 6-12 and 14-18 are pending. All claims stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Higuchi et al. (Japanese Patent Application Publication No. 11-253578) ["Higuchi"]. Claims 1, 6-12, and 14-18 are being appealed.

IV. STATUS OF AMENDMENTS

No amendment was filed subsequent to the final rejection contained in the Office Action
(Paper No. 20040603, mailed June 7, 2004).

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to a golf ball which has a good feel when hit with various types of clubs and has an improved distance when struck with a driver (Specification at page 1, lines 5-7).

To accomplish this, one embodiment of the invention, as set forth in claim 1, provides a solid multi-piece golf ball comprising a solid core, a mantle of at least one layer enclosing the solid core, and a cover of at least one layer enclosing the mantle (Specification at page 2, lines 22-25, Fig. 1). The mantle is made of a material composed primarily of a thermoplastic elastomer selected from a group consisting of polyester, polyamide, polyolefin, and polystyrene (Specification at page 5, lines 27-32) and has a thickness of up to 1.5 mm (Specification at page 2, lines 32-33).

The mantle and the solid core have a compression ratio, defined as (compression of mantle)/(compression of solid core), of at least 0.98 (Specification at page 2, lines 25-27). Compression is defined as the amount of deformation of a given component of a golf ball when subjected to a load of 1,275 N from an initial load of 98 N (Specification at page 4, lines 21-25). In this embodiment, the solid core has a compression of 3.2 to 4.5 mm (Specification at page 25-29). The solid core also has a difference in the JIS-C hardness between the core surface and the core center (surface hardness - center hardness) of at least 5 (Specification at page 2, lines 28-30). The cover is made of a material composed primarily of a thermoplastic resin having a Shore D hardness of 60 to 68 (Specification at page 2, lines 33-35).

In the above embodiment, the compressions of the mantle and the solid core are set such as to make the mantle softer and more resilient than in the golf balls of the prior art (Specification at page 2, lines 12-14). Thus, the golf ball has an excellent feel that is very soft when putting and hitting approach shots, even when the cover itself is hard (Specification at page 2, lines 16-17). Moreover, the golf ball has a good feel and can achieve an increased distance of travel when hit with a driver (Specification at page 2, lines 18-20).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 6-12, and 14-18 are unpatentable under 35 U.S.C. § 103(a)
over Higuchi.

VII. ARGUMENTS

1. *Whether claims 1, 6-12, and 14-18 are unpatentable under 35 U.S.C. § 103(a) over Higuchi et al. (JP 11-253578).*

In the rejection of claims 1, 6-12, and 14-18 under 35 U.S.C. 103(a) as being unpatentable over Higuchi, the Examiner, in the Office Action of January 28, 2004, Paper No. 21, contends the following:

Higuchi et al. discloses a golf ball having favorable carrying characteristics, soft feeling, and excellent spin characteristics. The golf ball comprises a solid core, intermediate layer, and cover. The solid core has a diameter of 28 or more, a deflection (compression) of 3.2 to 5.2mm from applying a load of 130kg to 10kg, and Shore D hardness on the front face of 30 to 55. The specific gravity of the core is less than 1.3. It is noted that the difference of a point measured at random and the front face should be no more than 10 degrees. The intermediate layer is formed of a polyurethane resin as the main material, in which contains a thermoplastic polyurethane elastomer. It is also noted that the polyurethane may be blended with materials such as polyamide, polyester, ionomer, etc. The cover has a Shore D hardness of 45 to 68. Higuchi et al. notes that polyester was used to produce the polyurethane of the intermediate layer. The intermediate layer also has a Shore D hardness of 20 to 50, a thickness of 0.5 to 2.5mm, a specific gravity of 1.1 or more, and a deflection (compression) of 3.2 to 5.2mm from applying a load of 130 kg to 10kg. One having ordinary skill in the art would have found it obvious to have a ratio between the compression of the core and intermediate layer of any value, in particular approximately 1, as taught by Higuchi et al., in order to obtain a golf ball having good feel and flight distance.

Then, in the Office Action of June 7, 2004, Paper No. 20040603, the Examiner, in maintaining the rejection of claims 1, 6-12, and 14-18, states:

Higuchi et al. discloses a polyurethane elastomer having a polyester system. Applicants claim one was given its broadest reasonable interpretation, which was a thermoplastic elastomer selected from the group consisting of "a polyester based or type"

elastomer. Applicant does not claim the group to be from a polyester elastomer, polyamide elastomer, polyolefin elastomer, or polystyrene elastomer; only that the thermoplastic elastomer be from a group consisting of polyester, polyamide, polyolefin, and polystyrene. Therefore, it is believe that the rejection above is proper.

In regards to the compression ratio, Higuchi et al. discloses the compression of the core being 3.2 to 5.2mm and the intermediate layer having a compression of 3.2 to 5.2mm. It is clearly apparent that the ratio between the two layers are at least one when both have deflection at the lower limits of the range, and one having ordinary skill in the art would have seen that the compression ratio is implicitly taught by Higuchi et al. Therefore, it is submitted that *prima-facie* obviousness has been establish.

Appellants respectfully disagree.

To establish a *prima facie* case of obviousness, the Examiner must show that the prior art references, when combined, teach or suggest all of the claim limitations. See MPEP § 2143.

Appellant respectfully submits that the reference cited above by the Examiner fails to teach or suggest all of the claim limitations as set forth in the present application. Specifically, Higuchi fails to teach or suggest at least that “the mantle is made of a material composed primarily of a thermoplastic elastomer selected from the group consisting of polyester, polyamide, polyolefin, and polystyrene.”

The Examiner admits in the Office Action of January 28, 2004, that the Higuchi reference fails to teach that the main material of the mantle is composed “primarily of a thermoplastic elastomer selected from the group consisting of polyester, polyamide, polyolefin, and polystyrene.” Specifically, the Examiner states that the “intermediate layer [of Higuchi] is formed of a polyurethane resin as the main material, in which contains a thermoplastic polyurethane elastomer.”(emphasis added). Thus, the Examiner readily admits that the Higuchi

teaches that the main/primary material of the mantle layer is a polyurethane resin, which Higuchi teaches may be a polyurethane elastomer.

However, the Examiner seems to believe that other elastomers, such as polyamide, can be added to the polyurethane elastomer, and therefore it would have been obvious to use such elastomers as the primary material of the mantle layer. The Examiner also contends that claim 1, when given its broadest reasonable interpretation, only requires that the mantle layer have a polyester, polyamide, polyolefin or polystyrene.

Contrary to the Examiner's contentions, claim 1 recites that the mantle layer is made "primarily of a thermoplastic elastomer selected from the group consisting of polyester, polyamide, polyolefin, and polystyrene." In construing the claim, the Examiner improperly disregards the fact that the primary material on the mantle layer is a thermoplastic elastomer selected from polyester, polyamide, polyolefin, and polystyrene.

Higuchi maintains that the main/primary material of the mantle layer is polyurethane resin, which may be a polyurethane elastomer, and not any other type of material. Furthermore, Higuchi teaches that the polyurethane elastomer is a product of a polyol and a diisocyanate. Although the polyol, in Higuchi, can be a polyester system polyol, Higuchi does not teach or suggest that a thermoplastic elastomer made of polyester, polyamide, polyolefin or polystyrene can be used as the main material of the mantle. Higuchi only teaches that a polyurethane resin can be used as the main material for the mantle layer. Nowhere in Higuchi does it teach or suggest that a polyester elastomer alone can be used as the main material of the mantle. In fact, the Examiner points to no such teaching in the Higuchi reference. The Examiner's sole

contention is that claim 1 only requires that a polyester be blended in the mantle layer. Appellant submits that the Examiner's contention is improper.

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Here, the Examiner, in interpreting claim 1, ignores the word "primarily." Claim 1 clearly recites that the mantle layer must be made from a thermoplastic elastomer material that is *primarily* polyester, polyamide, polyolefin, or polystyrene. The Examiner admits that Higuchi only teaches a mantle layer made of a thermoplastic elastomer material that is *primarily* polyurethane. Accordingly, when all of the words are given their proper consideration, it is clear that Higuchi fails to teach at least that "the mantle is made of a material composed primarily of a thermoplastic elastomer selected from the group consisting of polyester, polyamide, polyolefin, and polystyrene."

Additionally, the Examiner alleges that the claimed compression ratio would be an obvious feature of the Higuchi golf ball because one skilled in the art would have found it obvious to have such a compression ratio "in order to obtain a golf ball having good feel and flight distance." The Examiner further contends that it would have been obvious for one skilled in the art to get a compression ratio of at least one based on the low end of the disclosed compression ranges for the core and intermediate layer of the golf ball in Higuchi.

However, when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *In re Kotzab*, 55 USPQ2d 1313, 1316-1317 (citing *B.F. Goodrich Co. v. Aircraft Breaking Sys. Corp.*, 72 F.3d

1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996)); *see also* MPEP § 2142 (*quoting Ex parte Clapp*, 227 USPQ 972, 973 (B. Pat. App. & Inter. 1985)) (“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.”).

The Examiner points to no such teaching within Higuchi to modify the compression ratio to be at least 0.98. The compression ranges disclosed in Higuchi would provide a compression ratio range between 0.615 to 1.625. The Examiner’s contention that a compression ratio of at least one “is implicitly taught by Higuchi” is impermissible hindsight reconstruction since the Examiner provides no support in the prior art to show why one skilled in the art would have chosen the low end of the compression ranges. The Examiner instead makes only a bald unsupported conclusion as to the obviousness of this feature. Broad conclusory statements regarding the teaching of references, alone, are not evidence. *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1372 (Fed. Cir. 2000) (Emphasis added).

Appellants submit that the claimed compression ratio would not have been obvious to one skilled in the art because Higuchi fails to teach a compression ratio that is at least 0.98 while satisfying the remaining limitations of the claims. The compression ratio (the compression corresponds to the amount of deformation when subjected to a load of 1,275 N from an initial load of 98 N) between the mantle and the solid core described in Higuchi does not fall within the

claimed range (that is, at least 0.98) when the other properties of the Higuchi ball remain within the claimed range.

To support this position, Appellants rely on the Declaration of Mr. Watanabe, which explains that the golf balls of Examples 1-7 of Higuchi were constructed and tested. As shown in the attached Declaration, Examples 1-3 and 5-7 teach and suggest compression ratios of 0.87 to 0.92, which are below the claimed range of at least 0.98.

The golf ball of Example 4 has a compression ratio of 1.03, however, the solid core of Example 4 has an extremely high compression of 5.61 mm, which is greater than the claimed range of 3.2 to 4.5 mm. Thus, Higuchi teaches that in order to meet the claimed compression ratio, the compression of the core must be outside the claimed range. Said differently, Higuchi fails to teach or suggest a golf ball having both a compression ratio of at least 0.98 and a core compression of 3.2 to 4.5. Furthermore, the golf ball of Example 4 also has a cover hardness of 49.76 Shore D (converted using the DuPont equation of "Shore D= (0.76 X JIS-C)-8"). The cover hardness of 49.76 is also much lower than the claimed range of 60 to 68. This further evidences that the teachings of Higuchi are deficient because, to get a compression ratio of at least 0.98, the other properties of the golf ball must be modified in such a manner as to fall outside the claimed range.

Since the Examiner has not provided a convincing line of reasoning as the obviousness of the compression ratio, Appellants submit that the Examiner has failed to establish a *prima facie* case of obviousness.

Because claims 6-12 and 14-18 depend on claim 1, Appellants submit that these claims are patentable at least by virtue of their dependency.

For all of the foregoing reasons, Appellants respectfully submit that claims 1, 6-12, and 14-18 are neither anticipated nor obvious over the art of record, and accordingly request that the pending rejection be reversed.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37 and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

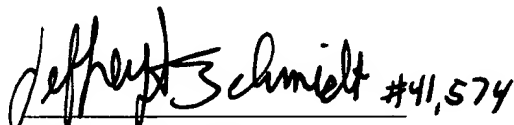
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Date: December 6, 2004

CLAIMS APPENDIX

CLAIMS 1, 6-12, and 14-18 ON APPEAL:

1. A solid multi-piece golf ball comprising a solid core, a mantle of at least one layer enclosing the solid core, and a cover of at least one layer enclosing the mantle, wherein the mantle is made of a material composed primarily of a thermoplastic elastomer selected from the group consisting of polyester, polyamide, polyolefin, and polystyrene, and has a thickness of up to 1.5 mm,

the mantle and the solid core have a compression ratio, defined as (compression of mantle)/(compression of solid core), of at least 0.98, the compression being the amount of deformation when subjected to a load of 1,275 N from an initial load of 98 N, and

the solid core has a compression of 3.2 to 4.5 mm and has a surface and a center with a difference in JIS-C hardness therebetween, defined as (surface hardness - center hardness), of at least 5, and

the cover is made of a material composed primarily of a thermoplastic resin having a Shore D hardness of 60 to 68.

2.-5. (canceled).

6. The golf ball of claim 1, wherein the compression ratio between the mantle and the solid core is at least 1.00.

7. The golf ball of claim 1, wherein JIS-C hardness difference between the surface and the center of the solid core is at least 8.

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8. The golf ball of claim 1, wherein the solid core has a diameter of at least 32.0 mm.
9. The golf ball of claim 1, wherein the JIS-C hardness difference between the surface and the center of the solid core is less than 22.
10. The golf ball of claim 1, wherein the JIS-C hardness difference between the surface and the center of the solid core is less than 20.
11. The golf ball of claim 1, wherein the compression ratio of the mantle and the solid core is less than 1.08.
12. The golf ball of claim 1, wherein the compression ratio of the mantle and the solid core is less than 1.05.
13. (canceled).
14. The golf ball of claim 1, wherein the Shore D hardness of the mantle is from 15 to 30.
15. The golf ball of claim 1, wherein the Shore D hardness of the mantle is from 25 to 40.
16. The golf ball of claim 1, wherein the mantle has a thickness of up to 1.3 mm.
17. The golf ball of claim 1, wherein the Shore D hardness of the mantle is less than the Shore D hardness of the surface of the solid core.
18. The golf ball of claim 1, wherein the specific gravity of the mantle is 1.050 to 1.121.

APPENDIX

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EVIDENCE APPENDIX

Pursuant to 37 C.F.R. § 41.37(ix), submitted herewith is a declaration submitted pursuant to 37 C.F.R. § 1.132 and relied upon by Appellants in the appeal.

This document was submitted on December 18, 2002.

APPENDIX

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RELATED PROCEEDINGS APPENDIX

None.